Evaluation of the results and indications of brain CT scan before lumbar puncture in children less than 12 years old suspected of meningitis admitted in Booali hospital of Ardabil in 1394

BACKGROUND&OBJECTIVE: Multiple usage of CT Scan results in increase of getting cancer in the future especially in children due to cell growth and mutation. The key recommendation of researchers is that due to usefulness of CT Scan in diagnosis of disorders in children especially contraindication of Lumbar Puncture, it is necessary to be used in totally urgent cases and with the least dosage and at the least frequent use. The main purpose of this study is to investigate the results of brain CT Scans taken before Lumbar Puncture in all children under 12 years old suspected of meningitis who were hospitalized in Ardebil Bu-Ali Hospital in 1394; Since detection of indications and investigating their results will result in reduction of demands for CT Scan in children and as a result, reduction of their contact with radiation and aftereffects of this process.

METODS: In this study, which was done in a retrospective way, the data of brain CT Scans on all meningitis suspected children under 12 years old hospitalized in Ardebil Bu-Ali Hospital from 1/1/1394 to 29/12/1394 who were candidates of CT Scan before Lumbar Puncture were extracted and the results were analyzed by statistical tests.

RESULTS: In this study, a total number of 67 patients were studied and CT Scan changes were seen in 13 cases. 6 cases of 13 patients were male and 7 cases were female. The mean age of the cases who had CT Scan changes was 36.9 months with Standard deviation of 2.14 and in cases without CT Scan changes, the mean age was 38.8 months with Standard deviation of 3.56. Overall 13 patients experienced decrease in consciousness level and CT Scan changes was observed in 8 cases. Vomiting was observed in 33 patients and CT Scan changes in 3 cases. Focal seizure was observed in 4 cases and CT Scan changes in 3 cases. generalized seizure was observed in 21 patients and CT Scan changes in 6 cases. Focal neurologic symptoms were seen in 3 patients and CT Scan changes in 1 case. In 13 cases (19.4 percent) of this study, CT Scan changes was observed; Among these 13 patients, 5 cases had structural brain lesions, 3 cases had SOL, 1 case bleeding, 3 cases had subdural effusion, and 1 case indistinguishable lesion.

CONCLUSION: The prevalence rate of CT Scan was 19.4% and the most commonly detections in patients by CT Scan, were structural disorder of the brain and subdural effusion. A Significant correlation was observed between CT Scan detections and generalized and focal seizures and decrease in level of consciousness.

Key words: CT scan, cancer, lumbar puncture, meningitis